

# PCOS

**METROPOLIS**  
The Pathology Specialist

## What is PCOS?

You'll be amazed when you read this...

What is PCOS?. Who is at risk? How to get tested? What are the complications. Is there a cure? What are the right ways to eat? What lifestyle changes do I need to make?

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The Conquer PCOS E-Book  
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**THE CONQUER PCOS  
E-BOOK**



# WHAT IS PCOS



Polycystic ovary syndrome (PCOS) is a common endocrine system disorder affecting about 1 in 10 of women within the reproductive age. In this condition, woman's levels of the sex hormones estrogen and progesterone are out of balance. PCOS can cause problems with a woman's menstrual cycle, fertility, cardiac function, and appearance.

Women with PCOS may have enlarged ovaries that contain small collections of fluid — called follicles — located in each ovary as seen during an ultrasound exam.

PCOS however is not a problem with Ovaries as such, but an increase in male hormones that cause the ovaries to work differently which leads to symptoms and complications.

# Symptoms

Irregular, infrequent, heavy or prolonged menstrual periods,  
excess hair growth on stomach, face, back  
acne,  
easy weight gain  
obesity

The above symptoms can all occur in women with polycystic ovary syndrome. PCOS has many signs — things you or your doctor can see or measure — and symptoms — things that you notice or feel. All of these can worsen with obesity. Every woman with PCOS may be affected a little differently. In adolescents, infrequent or absent menstruation may raise suspicion for the condition.



# Diagnosis

To be diagnosed with the condition, your doctor looks for at least two of the following:

**Irregular periods:** This is the most common characteristic. Examples include menstrual intervals longer than 35 days; fewer than eight menstrual cycles a year; failure to menstruate for four months or longer; and prolonged periods that may be scant or heavy.

**Excess androgen:** Elevated levels of male hormones (androgens) may result in physical signs, such as excess facial and body hair (hirsutism), adult acne or severe adolescent acne, and male-pattern baldness (androgenic alopecia).

- Excess hair on the face, chest, stomach, thumbs, or toes
- decrease in breast size
- deeper voice
- thin hair

# Symptoms

## **Polycystic ovaries**

Polycystic ovaries become enlarged and contain numerous small fluid-filled sacs which surround the eggs. Your doctor will perform an ultrasound to determine PCOS

## **Other symptoms include:**

- acne
- weight gain
- pelvic pain
- anxiety or depression
- infertility

While not symptoms of the disease, many women with PCOS have other concurrent health problems, such as diabetes, hypertension, and high cholesterol. These are linked to the weight gain typical in PCOS patients.

Two of the following three are needed to make a diagnosis

## **Menstrual Dysfunction**

Irregular Periods - More often or less often

## **Hyperandrogenism:**

signs of male type hormone (acne, body hair and abnormal blood results for male hormones)

## **Ultrasound:**

Partly formed eggs on ovaries, ovaries bigger on size and 12 or more cysts observed on an ovary

# Tests for PCOS

## Diagnosis of exclusion

There's no specific test to definitively diagnose polycystic ovary syndrome. The diagnosis is one of exclusion, which means your doctor considers all of your signs and symptoms and then rules out other possible disorders.

During this process, you and your doctor will discuss your medical history, including your menstrual periods, weight changes and other symptoms. Your doctor may also perform certain tests and exams:

### Physical exam:

During your physical exam, your doctor will note several key pieces of information, including your height, weight and blood pressure.



### Pelvic exam:

During a pelvic exam, your doctor visually and manually inspects your reproductive organs for signs of masses, growths or other abnormalities.

# Tests for PCOS

## Blood tests:

Your blood may be drawn to measure the levels of several hormones to exclude possible causes of menstrual abnormalities or androgen excess that mimic PCOS. Additional blood testing may include fasting cholesterol and triglyceride levels and a glucose tolerance test, in which glucose levels are measured while fasting and after drinking a glucose-containing beverage.

## Ultrasound

An ultrasound exam can show the appearance of your ovaries and the thickness of the lining of your uterus. During the test, you lie on a bed or examining table while a wand-like device (transducer) is placed in your vagina (transvaginal ultrasound). The transducer emits inaudible sound waves that are translated into images on a computer screen.



# Complications

Women with PCOS have a higher risk of developing:

- **Type 2 Diabetes**
- **hypertension** (high blood pressure)
- **Cholesterol and lipid abnormalities**, such as elevated triglycerides or low high-density lipoprotein (HDL) cholesterol, the "good" cholesterol
- **Metabolic syndrome** — a cluster of signs and symptoms that indicate a significantly increased risk of cardiovascular disease
- **Nonalcoholic steatohepatitis** — a severe liver inflammation caused by fat accumulation in the liver
- **high cholesterol**
- **anxiety and depression**
- **sleep apnea** (when a person stops breathing periodically during sleep)
- **endometrial cancer** (cancer caused by thickening of the lining of the uterus) caused by exposure to continuous high levels of estrogen
- **breast cancer**

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# Complications

If you become pregnant, your doctor may refer you to a doctor who specializes in high-risk pregnancies. Women with PCOS have a higher rate of miscarriage, gestational diabetes, and premature delivery. They may need extra monitoring during pregnancy.

The earlier your PCOS is diagnosed and treated, the lower your risk of developing these complications. Avoiding tobacco products and participating in regular exercise can also reduce your risk of some of these comorbidities. Talk with your doctor about what PCOS means for your overall health and how you can prevent serious complications.



# Management of PCOS

Polycystic ovary syndrome treatment generally focuses on management of your individual main concerns, such as infertility, hirsutism, acne or obesity.

## Lifestyle changes

As a first step, your doctor may recommend weight loss through a low-calorie diet combined with moderate exercise activities. Even a modest reduction in your weight — for instance, losing 5 percent of your body weight — might improve your condition.

Your doctor may prescribe a medication to:

**Regulate your menstrual cycle.** To regulate your menstrual cycle, your doctor may recommend combination birth control pills — pills that contain both estrogen and progestin. These birth control pills decrease androgen production and give your body a break from the effects of continuous estrogen, lowering your risk of endometrial cancer and correcting abnormal bleeding. As an alternative to birth control pills, you might use a skin patch or vaginal ring that contains a combination of estrogen and progestin. During the time that you take this medication to relieve your symptoms, you won't be able to conceive.

If you're not a good candidate for combination birth control pills, an alternative approach is to take progesterone for 10 to 14 days every one to two months. This type of progesterone therapy regulates your periods and offers protection against endometrial cancer, but it doesn't improve androgen levels and it won't prevent pregnancy. The progestin-only minipill or progestin-containing intrauterine device are better choices if you also wish to avoid pregnancy.



Your doctor also may prescribe metformin (Glucophage, Fortamet, others), an oral medication for type 2 diabetes that improves insulin resistance and lowers insulin levels. This drug may help with ovulation and lead to regular menstrual cycles. Metformin also slows the progression to type 2 diabetes if you already have prediabetes and aids in weight loss if you also follow a diet and an exercise program.

**Help you ovulate:** If you're trying to become pregnant, you may need a medication to help you ovulate. Clomiphene (Clomid, Serophene) is an oral anti-estrogen medication that you take in the first part of your menstrual cycle. If clomiphene alone isn't effective, your doctor may add metformin to help induce ovulation. If you don't become pregnant using clomiphene and metformin, your doctor may recommend using gonadotropins — follicle-stimulating hormone (FSH) and luteinizing hormone (LH) medications that are administered by injection. Another medication that your doctor may have you try is letrozole (Femara). Doctors don't know exactly how letrozole works to stimulate the ovaries, but it may help with ovulation when other medications fail. When taking any type of medication to help you ovulate, it's important that you work with a reproductive specialist and have regular ultrasounds to monitor your progress and avoid problems.

**Reduce excessive hair growth:** Your doctor may recommend birth control pills to decrease androgen production, or another medication called spironolactone (Aldactone) that blocks the effects of androgens on the skin. Because spironolactone can cause birth defects, effective contraception is required when using the drug, and it's not recommended if you're pregnant or planning to become pregnant.

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